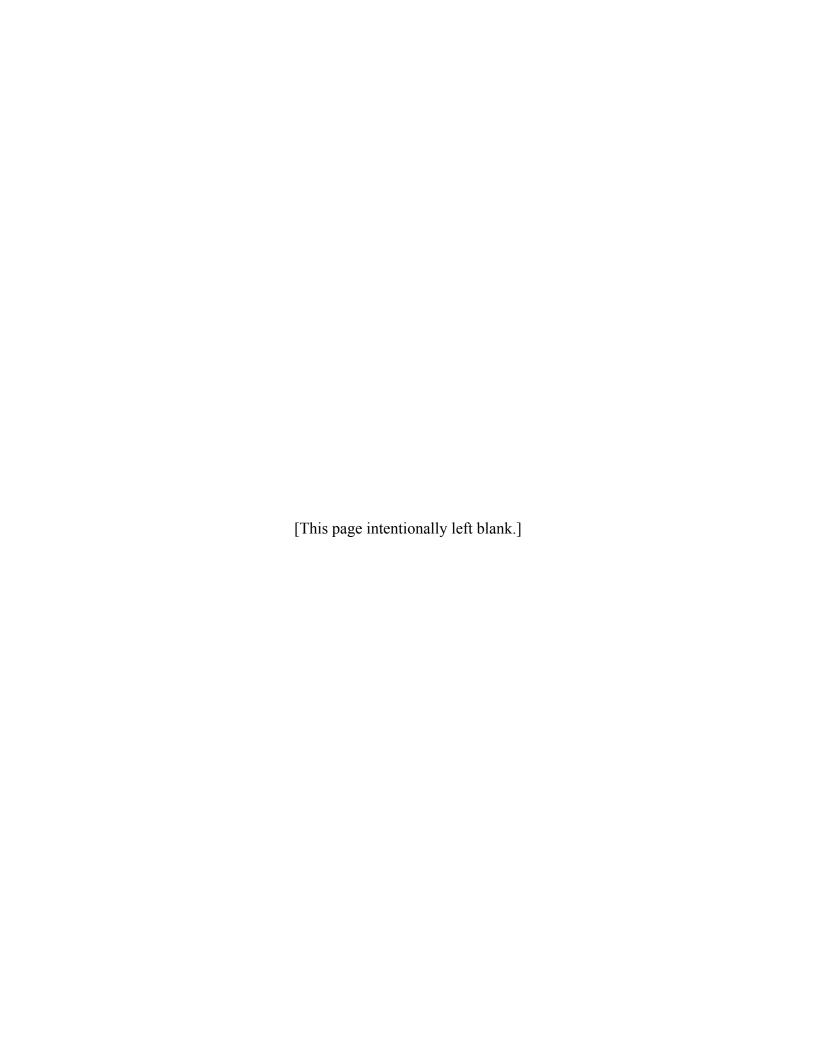**APPENDIX A**

GLOSSARY

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APPENDIX A
GLOSSARY

Abiotic Compartment Type   A compartment type consisting primarily of a non-living environmental medium (*e.g.*, air, soil) for which TRIM.FaTE calculates chemical masses and concentrations; it may also contain biota, such as the microorganisms responsible for chemical transformation (see also compartment type).

Advective Process   A process by which a chemical can be transported within a given medium that is moving from one compartment to another.

Biotic Compartment Type   A compartment type consisting of a population or community of living organisms (*e.g.*, bald eagle, benthic invertebrate), or in the case of terrestrial plants, portions of living organisms (*e.g.*, stems, leaves), for which TRIM.FaTE calculates chemical masses and concentrations (see also compartment type).

Boundary Condition   A user-defined setting that establishes the concentration of a chemical on the external (*i.e.*, non-modeled) side of the modeled domain; chemical mass can enter a compartment across this interface via advective processes.

Chemical   A unit whose mass is being modeled by TRIM.FaTE. A chemical can be any element or compound, or even group of compounds, assuming the necessary parameters (*e.g.*, molecular weight, diffusion coefficient in air) are defined.

Compartment   The TRIM.FaTE modeling unit that contains chemical mass. Chemical mass is transported between and transformed within compartments; a specific compartment is characterized by its physical and spatial composition and its relationship to other compartments.

Compartment Type   A specific kind of compartment, such as an air compartment type or a racoon compartment type. Compartment types are distinguished from each other by their basic properties and the way they exchange chemical mass with other compartment types.

Composite Compartment Type   A group of different compartment types that are consistently interconnected. Individual compartments within a composite compartment require the presence of other compartments.

Diffusive Process   A process by which a chemical is transported from one compartment to another as a result of the magnitude and direction of the concentration differences between two compartments at the interface between the two locations.

Dispersion   The "spreading out" of a chemical during advective transport. May result in movement of the chemical perpendicular to the direction of advective flow.

Fugacity   A measure of the tendency of a substance to escape by some chemical process from the phase in which it exists.

Initial Condition   The user-defined chemical concentration in a compartment at the beginning of a scenario; represents concentrations in environmental media just before a source begins to emit chemicals in the modeled scenario.

Link   A connection that allows the transfer of chemical mass between any two compartments. Each link is implemented by an algorithm or algorithms that mathematically represent the mass transfer.

Model Evaluation   The broad range of review, analysis, and testing activities designed to examine and build consensus about a model's performance.

Modeling Region   The region of space through which the transport and transformation of the modeled chemical(s) is estimated.

Output Time Step   A length of time over which the compartment masses and concentrations calculated at each simulation time step are summarized and reported by the model.

Parameter   A model input that defines a variable in an algorithm (*e.g.,* emission rate, half-life, biomass).

Parcel   A planar (*i.e.,* two dimensional) geographical area used to subdivide a modeling region. Parcels, which can be virtually any size or shape, are the basis for defining volume elements. There can be air, land, and surface water parcels.

Phase   The physical state of material within a compartment; in TRIM.FaTE, the various phases in which a chemical exists within a compartment are assumed to be in equilibrium with respect to chemical partitioning.

Source
Within TRIM.FaTE, a chemical source that is emitted directly to the primary abiotic compartment within which the source is located (e.g., a stack at a facility).

Project
A computer framework for saving one or more scenarios and all of the data properties for the scenarios that pertain to a single site (*i.e.*, bounded modeling region).

Reporting Time Step
The user-specified time interval at which the model results (*e.g.*, compartment moles) are saved and reported in output files by the model.

Scenario
A specified set of conditions (*e.g.*, spatial, temporal, environmental, source, chemical) used to define a model setup for a particular simulation or set of simulations.

Sensitivity
The rate of change of the model output with respect to changes in an input parameter.

Simulation
A single application of a model to estimate environmental conditions, based on a given scenario and any initial input values needed.

Simulation Period
The entire length of time for which the model is run and compartment masses and concentrations are calculated – in other words, the time period from the beginning of the simulation until the end.

Simulation Time Step
The time increment at which the model calculates (and re-calculates iteratively throughout the simulation period) a new inventory of compartment masses and concentrations.

Sink
A special kind of compartment type that accounts for chemical mass no longer available for transport or uptake within a scenario. There are three types of sinks: advection sinks, flush rate sinks, and degradation/reaction sinks.

Source
An external component that introduces chemical mass directly into a compartment.

Transfer Factor (T-factor)
A quantitative factor in units of inverse time that describes, for a first-order transfer between two compartments, the instantaneous flux of modeled chemical per amount of the chemical in the sending compartment.

TRIM.FaTE   The TRIM Environmental Fate, Transport and Ecological Exposure module that accounts for movement of a chemical through a comprehensive system of discrete compartments that represent possible locations of the chemical in the physical and biological environment and provides an inventory, over time, of a chemical throughout the entire system.

TRIM.Expo   The TRIM Exposure-Event module that measures human exposures by tracking population groups referred to as "cohorts" and their inhalation and ingestion through time and space.

TRIM.Risk   The TRIM Risk Characterization module that characterizes human exposures or doses with regard to potential risk using the corresponding exposure- or dose-response relationships.

Uncertainty   The lack of knowledge regarding the actual values of model input variables (parameter uncertainty) and of physical systems (model uncertainty).

Variability   The diversity or heterogeneity in a population or parameter; sometimes referred to as natural variability.

Volume Element   A bounded three-dimensional space that defines the location of an abiotic compartment and provides a frame of reference for one or more biotic compartments. This term is introduced to provide a consistent method for organizing objects that have a natural spatial relationship.